



Requested Patent: JP2001157690A

Title: ABSORBENT ARTICLE ;

Abstracted Patent: JP2001157690 ;

Publication Date: 2001-06-12 ;

Inventor(s):

OKUDA YASUYUKI; KOYAMA TAKAO; ITO HIDEKAZU; WATANABE HISANORI ;

Applicant(s): KAO CORP ;

Application Number: JP19990343511 19991202 ;

Priority Number(s): JP19990343511 19991202 ;

IPC Classification: A61F13/49; A61F5/44 ;

Equivalents: ;

ABSTRACT:

PROBLEM TO BE SOLVED: To provide an absorbent article such as a disposable diaper wherein twisting and shape deformation are hardly generated in an absorbent body and which is easily mounted and has excellent fitting properties and leakproof characteristics. **SOLUTION:** In an absorbent article wherein a surface sheet, a leakproof sheet and an absorbent body 4 are provided and a back side elastic part 10A is formed by arranging elastic members 21 and 21 around the trunk part along the width direction around the trunk part on the back side part, the back side elastic part 10A consists of a pair of side elastic parts 11 and 11 positioning left and right outside of both side edges of the absorbent body 4 and a central connecting part 12 positioning between a pair of the side elastic parts and the elastic members 21 around the trunk part are fixed on the side elastic parts 11 under elongated condition so as to exhibit elastic stretching and contracting properties and at the site where the absorbent body 4 exists on the central connecting part 12, a non-elastic part 12A where the elastic members 21 around the trunk part dose not exhibit elastic stretching and contracting properties is formed.

* NOTICES *

JPO and INPIT are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention gets twisted in *****, ** type collapse cannot produce it easily, and wearing is easy and is related with absorptivity goods, such as a disposable diaper excellent in fit nature and the leakage prevention engine performance.

[0002]

[Description of the Prior Art] Conventionally, it has the surface sheet of liquid permeability, the watertight sheet of liquid impermeability, and the absorber of liquid holdout, and it is substantially longwise and the disposable diaper which has the backside elastic section which makes the back expand and contract this back crosswise is used widely. In the elastic member, it arranges and the backside elastic section in such a disposable diaper is formed in the circumference section of a drum allotted to the circumference of the waist section allotted to the circumference of a wearer's waist, or a drum so that said absorber may be crossed. Therefore, in such a conventional disposable diaper, it got twisted in the web material which is made to adjoin an absorber and this and is arranged, was easy to produce ** type collapse, and was not enough in points, such as the fit nature of the back, and the ease of the leakage prevention engine performance and wearing.

[0003] Therefore, it gets twisted in the web material by which contiguity arrangement is carried out at an absorber or this, and is hard to produce ** type collapse, and the purpose of this invention is easy to equip and they is to offer absorptivity goods, such as a disposable diaper excellent in fit nature and the leakage prevention engine performance.

[0004]

[Means for Solving the Problem] This invention is equipped with the surface sheet of liquid permeability, the watertight sheet of liquid impermeability, and the absorber of liquid holdout. In the absorptivity goods with which the circumference section elastic member of a drum is allotted to the circumference section of a drum located in the circumference of a wearer's [in / it is substantially longwise and / the back] drum along the cross direction of absorptivity goods, and the backside elastic section is formed in it Said backside elastic section consists of the side elastic section of the pair located in the method of the outside of right and left of the edges on both sides of said absorber, and the central Division for Interlibrary Services located between these side elastic sections of a pair. In this side elastic section In the part to which it is fixed in the state of expanding so that said circumference section elastic member of a drum may discover elastic elasticity, and said absorber in this central Division for Interlibrary Services exists The above-mentioned purpose is attained by offering the absorptivity goods with which the inelastic section in which this circumference section elastic member of a drum does not discover elastic elasticity is formed.

[0005]

[Embodiment of the Invention] Hereafter, this invention is explained to a detail based on the desirable 1 operation gestalt. The disposable diaper 1 as absorptivity goods of this operation gestalt As shown in drawing 1, it has the surface sheet 2 of liquid permeability, the watertight sheet 3 of liquid impermeability, and the absorber 4 of liquid holdout. In the edges-on-both-sides section of the back A which has a longwise gestalt substantially and is allotted to a wearer's back side at the time of wear Have the FASUNINGU tapes 71 and 71 for diaper firm attachment of a Uichi Hidari pair. It is the so-called expansion type of disposable diaper, and

two or more circumference section elastic members 21 of a drum are allotted to the circumference section A1 of a drum located in the circumference of the drum of the wearer in Back A along the cross direction of a diaper, and 1st backside elastic section 10A as said backside elastic section is formed in it. Moreover, two or more waist section elastic members 22 are allotted to the waist section A2 located in the circumference of the waist of the wearer in Back A along the cross direction of a diaper, and 2nd backside elastic section 10B as said 2nd backside elastic section is formed in it. The circumference section elastic member 21 of a drum of four and 21- are allotted to the right-and-left both sides of the longitudinal direction of a diaper 1 in the circumference section A1 of a drum, respectively, and, specifically, three waist section elastic members 22 and 22- are allotted to the right-and-left both sides of the longitudinal direction of a diaper 1 in the waist section A2, respectively.

[0006] The surface sheet 2 and a watertight sheet 3 have a respectively larger dimension than an absorber 4, and pinching immobilization of the absorber 4 is carried out between both [these] the sheets 2 and 3. Moreover, the outer layer sheet 5 made of a nonwoven fabric is arranged on the external surface of a watertight sheet 3. The watertight sheet 3 has extended so that the edges-on-both-sides section may be located in the method of the outside of right and left rather than the edges on both sides 4a and 4a of an absorber 4, and the outer layer sheet 5 has extended so that the edges-on-both-sides section may be further located in the method of the outside of right and left rather than edges-on-both-sides 3a (only one side is illustrated) of this watertight sheet 3.

[0007] The absorber 4 is making the longwise abbreviation rectangle-like configuration in the condition (henceforth turgescence) of having opened the disposable diaper 1 to the plane, and the solid guards 6 and 6 of a right-and-left pair are formed so that the both-sides section of right and left of this absorber 4 may be covered on both sides of the longitudinal direction of a diaper. Each solid guard 6 allots the web material 62 which has an elastic member 61, and is formed, each solid guard's 6 free edge 63 is located in the center-section C approach prolonged in the longitudinal direction of a diaper 1 rather than the end face (not shown), [above an absorber 4], this end face carries out adhesion immobilization, and the web material 62 is formed in the surface sheet 2. both the web materials 62 -- in the free edge 63, the edge of the opposite side has extended so that it may be located in the method of outside [a / of an absorber 4 / side edge 4], the extension part is stuck on a watertight sheet 3 and the outer layer sheet 5, and, as for each, the side flap sections 7 and 7 of a pair are formed in the right-and-left both-sides section of a diaper 1.

[0008] Moreover, the landing tape (not shown) in the outside surface of the antinode flank B allotted to a wearer's venter at the time of wear which fixes the FASUNINGU tape 71 to a center section is prepared mostly. Here, as a FASUNINGU tape 71, the tape on which the usual binder is applied on the usual tape base material, and it comes to form firm attachment section 71a, the tape on which the male member of mechanical fasteners, such as a "piece of Velcro" (a trade name, Kuraray Co., Ltd. make), is allotted, and it comes to form firm attachment section 71a are used. Moreover, when the tape on which it comes to give the usual exfoliation processing as a landing tape when said firm attachment section 71a is formed of said adhesion section is used and said firm attachment section 71a is formed of said male member, the nonwoven fabric which is rich in the usual Metz member and the engagement nature of a mechanical fastener is used. In addition, as a formation ingredient of the surface sheet 2, a watertight sheet 3, an absorber 4, the outer layer sheet 5, an elastic member 61, and a web material 62, a well-known ingredient can usually be especially used without a limit.

[0009] It ** and sets to this disposable diaper. 1st backside elastic section 10A and 2nd backside elastic section 10B The side elastic sections 11 and 11 of the pair located in the method of the outside of right and left of the edges on both sides 4a and 4a of an absorber 4, respectively as shown in drawing 2, Consist of this side elastic section 11 of a pair, and the central Division for Interlibrary Services 12 located among 11, and in the side elastic section 11 in 1st backside elastic section 10A Two or more circumference section elastic members 21 of a drum are being fixed in the state of expanding so that elastic elasticity may be discovered, respectively, and two or more waist section elastic members 22 are being fixed to the side elastic section 11 in 2nd backside elastic section 10B in the state of expanding so that elastic elasticity may be discovered, respectively.

[0010] Here, the method of the outside of right and left of the edges on both sides of an absorber means the field which is a field currently fixed in the state of expanding so that it may be the semantics also containing the method of the outside of right and left of the production which extended edges on both sides to the longitudinal direction of a diaper and, as for the side elastic section, an elastic member may discover elastic elasticity, and is located in the method of the outside of right and left of the edges on both sides of an absorber. Moreover, it is

the part allotted to the circumference of a wearer's waist at the time of diaper wear, and the waist section A2 means within the limits of less than 10% of a diaper overall length from the longitudinal direction edge of a diaper, and is usually less than 7% of within the limits more preferably. Moreover, the circumference section A1 of a drum is a part located in the circumference of a wearer's drum (hypogastrium) at the time of diaper wear, and is within the limits (band-like field of width of this level) of about 25% of a diaper overall length from the lower limit of the waist section A2.

[0011] Rather than the edge where the edge located inside the cross direction of a diaper 1 is located in a crosswise outside, as shown in drawing 1, the circumference section elastic member 21 of a drum in the side elastic section 11 is incurvated, and is allotted so that it may be located in the length-from-the-crotch-to-the-cuff central D approach in the longitudinal direction of a diaper. The fit nature of the circumference of a foot can be raised by incurvating the circumference section elastic member 21 of a drum in this way, and allotting it. However, it is desirable that the edge inside [in the longitudinal direction of a viewpoint to the diaper which prevents the leakage by bending of an absorber 4 / which is most located in length-from-the-crotch-to-the-cuff central D approach / crosswise] the circumference section elastic member 21 of a drum has separated the diaper overall length from this center D of length from the crotch to the cuff 20% or more. namely, the edge of the circumference section elastic member 21 of a drum and the distance L with the center D of length from the crotch to the cuff -- a diaper overall length -- a certain thing is desirable 20% or more.

[0012] In the side elastic section 11, pinching immobilization of the circumference section elastic member 21 of a drum and 21- is carried out in the state of elongation between the auxiliary seat 23 for elastic member immobilization, the watertight sheet 3, or the outer layer sheet 5, and it is allotted in the natural condition in the central Division for Interlibrary Services 12, without being fixed between the surface sheet 2 and an absorber 4. Moreover, in the side elastic section 11, pinching immobilization of the waist section elastic member 22 and 22- is carried out in the state of elongation between the web material 62, the watertight sheet 3, or the outer layer sheet 5, and it is allotted in the natural condition in the central Division for Interlibrary Services 12, without being fixed between the surface sheet 2 and a watertight sheet 3.

[0013] Inelastic section 12A to which this circumference section elastic member 21 of a drum does not discover elastic elasticity is formed in the part to which the absorber 4 in the central Division for Interlibrary Services 12 of 1st backside elastic section 10A exists, and inelastic section 10B to which the waist section elastic member 22 does not discover elastic elasticity is formed in the part located above the longitudinal direction of an absorber 4 in the central Division for Interlibrary Services 12 of 1st backside elastic section 10B.

[0014] concrete -- both the elastic members 21 and 22 -- although Edges 21a and 22a and the center sections 21c and 22c of a crosswise outside of each diaper 1 were fixed to the configuration member of a diaper in the state of expanding and elastic elasticity is given to the side elastic section 11, the edges 21b and 22b by the side of the crosswise center C of the diaper of both the elastic members 21 and 22 are allotted so that elastic elasticity may not be discovered. and the part allotted so that the edges 21b and 22b of elastic members 21 and 22 may not discover elastic elasticity and the part to which the elastic member of the crosswise center section of an absorber is not allotted -- the circumference section A1 of a drum, and the waist section A2 -- the inelastic sections 12A and 12B in which elastic members 21 and 22 do not discover elastic elasticity are formed in the part to which the absorber 4 of the central Division for Interlibrary Services 12 which boils, respectively and can be set exists.

[0015] (1) "an elastic member does not discover elastic elasticity" in this invention It is (2) when elastic elasticity is not discovered, since the elastic member is not allotted to the part. Although the elastic member is allotted (3) since it is allotted in the natural condition, without being fixed, when elastic elasticity is not discovered any since the elastic member is being fixed in the condition in which elastic telescopic motion is impossible, in case elastic elasticity is not discovered -- although, although contained The inelastic sections 12A and 12B in this operation gestalt are as above-mentioned the above (1). The part which does not discover elastic elasticity, and the above (2) It consists of a part which does not discover elastic elasticity.

[0016] The inelastic sections 12A and 12B in this operation gestalt are formed in the crosswise center section of the diaper. From the point which prevents bending of an absorber and **** and raises the fit nature and the leakage prevention engine performance at the time of wearing, respectively, as for the width of face W1 (refer to drawing 2) of both the inelasticity sections 12A and 12B, it is desirable that it is 200% or less 50% or more

of the width of face W2 of an absorber 4, and it is desirable that it is especially 150% or less 90% or more. [0017] In the diaper 1 of this operation gestalt, in this way, since the inelastic sections 12A and 12B are formed in the central Division for Interlibrary Services 12, it does not bend near the crosswise center section of an absorber substantially at the time of wear.

[0018] In addition, although both the elastic members 21 and 22 in this operation gestalt are allotted so that the side elastic section 11 and the inelastic section 12 may be straddled The edges 21b and 22b allotted to the part located above the longitudinal direction of the part where an absorber 4 exists or absorber 4 in both the elastic members 21 and 22 Since it is allotted in the mode which does not discover elastic elasticity, respectively, it gets twisted in an absorber 4, the web material which adjoins this absorber 4, and ** type collapse is not produced.

[0019] As for the side elastic sections 11 and 11 of a viewpoint to the pair which it gets [pair] twisted in the web material which adjoins an absorber 4 and this absorber 4, and does not make it produce ** type collapse, it is more desirable than the coexistence object guard's 6 end face to be located in the method of the outside of right and left. That is, it is desirable that the elastic member is not being fixed in the state of expanding inside both end faces. By this configuration, generating of leakage in case the edges on both sides 4a and 4a of an absorber 4 are located in the inner direction rather than this base can be prevented especially effectively. In addition, each elastic members 21 and 22 in the 1st and 2nd both backside elastic sections are allotted to the symmetry to the center line prolonged in the longitudinal direction of a diaper 1, respectively.

[0020] Moreover, the circumference section elastic member 21 of a drum and the waist section elastic member 22 are connected with fixed part 71b by which the FASUNINGU tape 71 was fixed to the flank of Back A, and the edges 21a and 22a of the crosswise outside of a diaper were formed in it, respectively. That is, in fixed part 71b, pinching immobilization of the circumference section elastic member 21 of a drum, 21- and the waist section elastic members 22 and 22, and each of edges 21a and 22a is carried out between the tape base material of this FASUNINGU tape 71, and said web material 62.

[0021] Here as the circumference section elastic member 21 of a drum, and a waist section elastic member 22 The thing of the shape of band-like [broad] (Taira rubber ****) besides a linear thing respectively like yarn rubber and a thin film, form material, etc. can be used. As a formation material of both elastic members Respectively, the material of elasticity, such as synthetic rubber, such as a styrene-butadiene besides natural rubber, a butadiene, an isoprene, and a neoprene, EVA, elasticity polyolefine, and urethane, can be especially used without a limit.

[0022] Although especially the manufacture approach of the disposable diaper 1 of this operation gestalt is not restricted, it can be efficiently manufactured, for example by the manufacture approach of the following absorptivity goods. That is, it is the manufacture approach of absorptivity goods of providing the cutting process after a supply fixed process and this supply fixed process, and the arrangement process after this cutting process, and in said supply fixed process, said elastic members 21 and 22 are supplied to the web material which constitutes Back A in the state of expanding, and these a part of elastic members 21 and 22 are fixed to it at this web material. And in said cutting process, these elastic members 21 and 22 are cut in the part which is not being fixed to this web material. And in said arrangement process, this web material to which these elastic members 21 and 22 were fixed is arranged in the predetermined part of absorptivity goods, and absorptivity goods are obtained.

[0023] In addition, said web material is a web material which forms a part of back A, for example, is a laminating sheet with which it comes to carry out two or more laminatings of the surface sheet 2, a watertight sheet 3, the outer layer sheet 5, or these. And the parts fixed to this web material in a supply fixed process are center sections 21c and 22c and the edges 21a and 22a of a diaper cross direction outside of elastic members 21 and 22, and the part which is not being fixed to this web material cut in a cutting process is a part used as the edges 21b and 22b by the side of the center section C of the diaper of elastic members 21 and 22. According to the manufacture approach of these absorptivity goods, the disposable diaper of the above-mentioned operation gestalt is efficiently producible. Especially the point of not explaining can be performed about the manufacture approach according to each process in manufacture of the conventional absorptivity goods, and manufacture of the same or conventional absorptivity goods. For example, an arrangement process is JP,10-179635,A. It can carry out according to the approach of a publication.

[0024] The disposable diaper 1 of this operation gestalt can be used like the disposable diaper of the usual expansion mold. It is prevented effectively that get twisted in the web material by which contiguity arrangement is carried out at the absorber 4 and this by the shrinkage stress of an elastic member, and ** type collapse arises since 1st backside elastic section 10A which gives crosswise elasticity to the circumference section A1 of a drum consists of the side elastic sections 11 and 11 of a pair and the central Division for Interlibrary Services 12 and, as for the disposable diaper 1 of this operation gestalt, the central Division for Interlibrary Services 12 has inelastic section 12A.

[0025] Moreover, since the back fits good in accordance with the configuration of a wearer's hip at the time of wear, the sag of the back [as / in the conventional diaper] is lost, and it becomes the appearance felt refreshed. Thereby, even if it makes clothes, such as exaggerated trousers, wear on a diaper, it becomes the appearance felt refreshed and a feeling of wearing and leakage tightness are also improving. Furthermore, since Back A tends to spread in a plane in case it equips with a diaper, wearing to a wearer is very easy.

[0026] Moreover, since the waist section elastic member 22 is allotted in the same mode also as 2nd backside elastic section 10B formed in the waist section, it excels in fit nature and leakproofness more.

[0027] Moreover, since the circumference section elastic member 21 of a drum and the waist elastic member 22 are connected with fixed part 71b formed by fixing the FASUNINGU tape 71, respectively, a wearer's fit nature and wearing ease in a hip are improving much more.

[0028] In addition, the disposable diaper of this invention is not restricted to an above-mentioned gestalt, and can be variously changed in the range which does not deviate from the meaning of this invention. For example, other elastic members may be allotted to Back A within limits which do not check the effectiveness of this invention.

[0029] Drawing 5 shows other operation gestalten of this invention, the web material 82 which has the solid guard elastic member 81 in Back A is allotted, the backside solid guard 8 is formed, and this solid guard elastic member 81 is the disposable diaper of the expansion mold which it was allotted so that an absorber 4 might be crossed crosswise, and has been substantially estranged from the surface sheet 2 in the part which crosses this absorber 4. here -- "estranging substantially" -- the surface sheet 2 -- gathers -- getting twisted -- etc. -- it means that extent which is not formed may be contacted.

[0030] The both ends of said solid guard elastic members 81 and 81 in the diaper shown in drawing 5 are connected with fixed part 71b formed in the flank of Back A by fixing the FASUNINGU tape 71, respectively. Here, as a solid guard elastic member 81, what is used for the circumference section elastic member 21 of a drum or the waist section elastic member 22, and the same thing can be especially used without a limit.

[0031] Without getting twisted in the web material which adjoins an absorber 4 and this absorber 4, and producing ** type collapse etc., since according to this disposable diaper the backside solid guard 8 is formed in Back A and the solid guard elastic member 81 has estranged from the surface sheet 2 substantially, sufficient elasticity for Back A is acquired and the outstanding fit nature and leakproofness are obtained.

[0032] Moreover, in this invention, as for the side elastic section 11, only the backside elastic section of the circumference section A1 of a drum may consist of the side elastic section 11 and the central Division for Interlibrary Services 12. Moreover, as for the central Division for Interlibrary Services 12, the 1st and 2nd backside elastic sections 10A and 10B in the above-mentioned operation gestalt, although all the fields of the diaper cross direction are the inelastic sections 12A and 12B, crosswise [a part of] may be the inelastic section, respectively. moreover, the periphery section elastic member 21 and the waist section elastic member 22 -- each may have the part which does not discover elastic elasticity into the part located in a way outside the edges on both sides of an absorber, and may have the part which discovers elastic elasticity into the part located in a way among the edges on both sides of an absorber. Moreover, the number of the circumference section elastic members 21 of a drum and the waist section elastic members 22 which are allotted to the 1st and 2nd backside elastic sections 10A and 10B may be [two or more], or that of them may be one, respectively. This invention is also applicable to others and incontinentia putt, a sanitary napkin, etc. for a baby or an adult. [diaper / disposable]

[0033]

[Effect of the Invention] It gets twisted in the web material which adjoins an absorber and this, and is hard to produce ** type collapse, and the absorptivity goods of this invention are easy to equip, and they is excellent in

fit nature and the leakage prevention engine performance.

[Translation done.]